

1 WHAT IS CLAIMED IS:

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1. A fabrication method of a semiconductor device comprising the steps of:

10 (a) forming a given number of projection electrodes on each of a given number of semiconductor chips, and applying a thermosetting insulating adhesive to areas of mounting parts where the semiconductor chips are to be mounted on a substrate;

15 (b) heating said thermosetting insulating adhesive on said substrate with a half-thermosetting temperature;

20 (c) aligning said semiconductor chips to said mounting parts of the substrate and performing a first fixing of the semiconductor chips with a first pressure; and

25 (d) heating said substrate, on which said semiconductor chips are fixed, with a thermosetting temperature of said thermosetting insulating adhesive, and performing a second fixing of the semiconductor chips with a second pressure.

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2. The fabrication method of the

35 semiconductor device as claimed in claim 1, wherein the first pressure is lower than the second pressure.

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3. The fabrication method of the
semiconductor device as claimed in claim ¹⁵ ₁, wherein

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1 said second fixing is simultaneously performed for each
of said semiconductor chips with said second pressure.

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4. The fabrication method of the
semiconductor device as claimed in claim 2¹⁵, wherein
said second fixing is simultaneously performed for each
10 of said semiconductor chips with said second pressure.

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5. The fabrication method of the
semiconductor device as claimed in claim 1, wherein
said given number of the projection electrodes are
formed as studs by wire-bonding, the studs being
leveled.

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25 6. The fabrication method of the
semiconductor device as claimed in claim 1, wherein
said step (a) further comprises the step of (a-1)
forming a conductive adhesive on said projection
electrodes.

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7. The fabrication method of the

semiconductor device as claimed in claim 5, wherein
said step (a) further comprises the step of forming a
conducting adhesive on said projection electrodes.

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8. The fabrication method of the
5 semiconductor device as claimed in claim 6, wherein in
the step (a-1), said conductive adhesive on the
projection electrodes is formed by a conductive
adhesive, that has been skidded on a plate, and then
transcribed onto the projection electrodes.

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9. A fabrication system of a semiconductor
15 device comprising:

a chip loading device forming a given number
of projection electrodes on each of a given number of
semiconductor chips;

20 a substrate loading device loading a
substrate having mounting parts on which said
semiconductor chips are to be mounted;

an adhesive-application device applying a
thermosetting insulating adhesive to areas of said
mounting parts of the substrate;

25 an alignment-and-pressing device heating said
thermosetting insulating adhesive on said substrate
with a half-thermosetting temperature, aligning said
semiconductor chips to said mounting parts of the
substrate, and performing a first fixing of the
30 semiconductor chips with a first pressure; and

35 a pressing-and-heating device heating said
substrate, on which said semiconductor chips are fixed,
with a thermosetting temperature of said thermosetting
insulating adhesive, and performing a second fixing of
the semiconductor chips with a second pressure.

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10. The fabrication system of a semiconductor device as claimed in claim 9, wherein:

5 said alignment-and-pressing device comprises a heat plate for heating said thermosetting insulating adhesive with the half-thermosetting temperature, and bonding heads for aligning said semiconductor chips to said mounting parts and for performing said first
10 fixing with the first pressure; and

 said pressing-and-heating device comprises a stage for heating said substrate with the thermosetting temperature, and pressing-and-heating heads for performing said second fixing with the second pressure
15 with heating the semiconductor chips.

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